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21.

TUMOURS OF THE PALATE.

BY

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Tumours of the palate have not attracted much notice, yet they form a group of great interest. They are of many kinds—cystic and solid, innocent and malignant. In the small space of the palate almost every sort and kind of tumour have been observed: cysts, nævi, papillary growths; tumours of bone and of cartilage; glandular, sarcomatous, and cancerous growths. As regards their microscopic structure, there is still much to be made out; and as regards their pathology, it is worth while to observe how closely some of them resemble the tumours of the parotid region. Thus their structure is uncertain and complex; they may contain cartilage, bone, striped muscle, and glandular and embryonic tissues; the cells may be embryonic, myxomatous, sarcomatous, or epithelial. This same complex and heterogeneous structure is found in tumours of the parotid region. Again, in their slow yet uncertain rate of growth and in their general behaviour, some tumours of the palate are very like the tumours of the parotid region. If, therefore, Cohnheim's theory[1] holds good of tumours of the parotid region, as Mr. Jacobson has shown in his admirable paper on the "Enchondromata of the Salivary Glands,"[2] this same theory may also be applicable to tumours of the palate. These too, may be of embryonic origin, may grow from particles of embryonic tissue which have lain long dormant. And this theory

[1] "Das einfachste Hypothese scheint mir zweifellos sich vorzustellen, dass in einem frühen Stadium der embryonalen Entwicklung mehr Zellen producirt worden, als für den Aufbau des betreffenden Theils nöthig sind, so dass nun ein Zellenquantum unverwendet übrig geblieben ist, an sich vielleicht von nur sehr geringfügigen Dimensionen, aber—wegen der embryonalen Natur seiner Zellen—von grosser Vermehrungsfähigkeit."—*Cohnheim, Vorlesungen ü. Allgem. Path.*, 1877, i. p. 635.

[2] Guy's Hospital Reports, vol. xxvi.

of the origin of certain tumours of the palate receives some support from the fact that there is no part of the body which suffers more than the palate from arrest and perversion of development. It is formed by a very complicated folding-in of fœtal structures; and it is just in such a region as this that a superabundant formation of embryonic tissue would naturally take place.[1] In one case, indeed, tumour of the palate was associated with perverted development of the palate and the mouth. Again, the occurrence of true congenital dermoid tumours and vascular erectile growths in the palate may be taken as evidence that some tumours of the palate have an embryonic origin.

Tumours of the palate, considered in a general way, have the following character. They occur equally in men and women, except the small polypoid and papillary growths, which are much commoner in men. They are more common in the soft palate than in the hard, and more common on the left side of the palate than on the right.[2] They grow slowly, but they may quicken after years of slow growth. They are painless, quiet, often unnoticed for many years, prone to undergo cystic or mucoid degeneration, and to soften and ulcerate.

The cases that follow speak for themselves. The best accounts of tumours of the palate are in theses by Fano (Paris, 1857), and Courtade (Paris, 1885); in Gross's "System of Surgery," and in Mr. Heath's book on "Injuries and Diseases of the Jaws." But most of the cases collected here were dispersed through various medical papers and transactions; and I wish to offer my best thanks to those gentlemen who have told me of some of them. It appears that more attention has been paid to the subject in France, by Nélaton and others, than in England.

Dermoid Tumours.

1. A male infant was born with a tumour inside its mouth which was at first mistaken for the tongue, being of the same colour and consistence; but it appeared to be thicker than the

[1] "Embryologically there is no difficulty in accounting for the position of a dermoid tumour of the palate; for the involution of epiblast which takes place at the mouth reaches back to the posterior wall of the pharynx; and, in fact, in rabbits there are four tufts of hair at the posterior part of the epiblastic involution, two on the inside of each cheek."—*Dr. Hale White, loc. cit.*

[2] This same left-sidedness is observed in hare-lip, and, as it appears, also in the tumours of the parotid region. Sir William Lawrence, when he was President of the Medico-Chirurgical Society, in giving an account of parotid tumours, said that all those that he had seen had been on the left side (Med.-Chir. Trans. xvii.); and four cases published by Dr. Patterson of Glasgow were likewise all on the left side.

tongue, and it pushed the lips apart.[1] The baby breathed with difficulty. The soft palate was partially cleft; the tongue adhered by all its lower surface to the floor of the mouth, and the lips were also unnaturally adherent to the gums. On the dorsum of the tongue was a rounded tubercle the size of a small hazel-nut.

From the middle of the hard palate grew a tumour, which was lobed, covered with silky hairs, especially on the left side, flattened and soft, and it had a little polypoid appendix on one side. It was cut off, without hæmorrhage. Its surface was of true skin, with large sebaceous glands, but no papillæ containing vessels or nerve-filaments; inside, it was composed of adipose tissue, with a central fascicle of striped muscular fibre radiating outward toward the surface.—*Clérault, Bull. Soc. Anat.*, 1874, p. 380.

2. A female child, aged 3, was brought to the Hospital with difficulty in swallowing, especially in swallowing solids. On examination of the mouth, "a body was seen, which at first sight appeared to be an immensely hypertrophied uvula. It was about two inches long, and about the size of one's first finger, and was probably attached to the soft palate behind the uvula. It was of a bright red, and was freely moveable on a broad base." It was ligatured and cut away by Mr. Morrant Baker. Its surface was of skin, with hairs and sebaceous glands and numerous papillæ, in which were seen vessels, but not nerves. There were also a few sweat glands. The interior of the tumour was of fibrous tissue, with fat in the interstices; and running vertically through it was a plate of cartilage consisting of cells, much smaller than is usual, and so numerous that it was difficult to make out any intercellular substance.—*Dr. Hale White, Path. Soc. Trans.*, 1881.

3. A male child was observed for two days after birth to have very great trouble in breathing and very marked cyanosis. There was on the right anterior pillar of the fauces a small rounded tumour with a stout pedicle. It was found to consist chiefly of adipose tissue, contained in the interspaces of a fibrous matrix. In the middle of the pellets of fat thus formed were fragments of cartilage, some of which showed points of ossification. In the centre of the tumour was a cystic cavity, containing a glairy sticky liquid, without smell or colour; the wall of this cyst was lined with skin containing sebaceous and sweat glands and elastic tissue.—*Legroux, Soc. Anat.*, 1867, p. 10.

[1] A case has lately been in the Hospital, under Mr. Baker's care, of a smooth, rounded, pedunculated growth hanging from the roof of a man's mouth, just behind the front teeth. The man could, with his tongue, push the growth forward between his teeth; it then looked almost exactly like his tongue.

4. A child was born with a large tumour protruding from its mouth, almost suffocating it. An hour later it was excised; the hæmorrhage was controlled by pressure, and the child lived for some hours. The mass was eight inches long, and five or six broad; it had grown from the hard palate. It was a parasitic growth, showing rudiments of limbs and external generative organs. It contained numerous growing centres of cartilage and bone, cavities holding reddish grumous fluid, and four inches of a double intestinal tube with a single mesentery.—*Dr. Kidd, Dublin Hosp. Gaz.*, 1856.

Remarks.—In Case 1, beside the interesting malformation of the tongue, lips, and soft palate, the hard palate was deeply hollowed out by a sort of fossa, running along the median line, and forming a bed for the tumour. Such high-pitched narrow palates may be in themselves a sign of imperfect development; they often go with great stupidity,[1] and with a weak chinless lower jaw.

With the presence of striped muscle in this tumour may be compared Wagner's[2] case, where there was a small flattened tumour, the size of a pea and sharply circumscribed, growing in the submucosa of the posterior surface of the soft palate. It was composed of striped muscle. Nélaton, in his Lectures, speaking of tumours of the palate, points out that in the soft palate there are two layers, anterior and posterior, and that the anterior layer is rich in glands, while the posterior layer is the more muscular; and argues from this that we may naturally look for glandular tumours in the anterior layer of the soft palate, and for tumours of striped muscle in the posterior layer of it. Striped muscle has also been found in tumours of the parotid region.[3]

Case 2 is well described and figured by Dr. Hale White in the Pathological Society's Transactions for 1881. There was some uncertainty as to the exact attachment of the tumour. Dr. White gives a reference to a similar tumour, which grew, not from the palate, but from the basilar portion of the occipital bone.

Case 3 is only the involuted form of Cases 1 and 2. Similar dermoid cysts occur under the tongue[4] and in the neck,[5] at the first branchial cleft, and most often of all at the junction of the

[1] Centralblatt f. Larnyg., October 1886, p. 131.

[2] Ziemmsen's Encyclop. vi.

[3] A very interesting case, with references to the literature on this subject, was published by Dr. Post, Amer. Journ. Med. Science, Philad., 1883.

[4] Pathological Society's Transactions, 1881, p. 201.

[5] For remains of embryonic tissue in the neck, see Virchow's Archiv., 1886, p. 206.

frontal process and the superior maxillary process in the embryo, near the external angular process of the frontal bone.

Case 4, in spite of its much graver character, is of the same kind as the preceding three. The child was otherwise well-formed and healthy; its placenta was single and normal, but very large.

Professor Pancoast, of Philadelphia, had a case where a similar parasitic mass grew out of the cheek of a male child. He boldly removed it, and the child made a good recovery.

Cystic Tumours.

True simple single cysts of the palate must be very rare: a long search has only brought to light one case:—

A woman, aged 50, who had suffered from caries of her right upper incisors, found in her mouth a swelling, the size of half of a pigeon's egg, extending over the right half of the hard palate. It was elastic, with a feeling of fluctuation. The mucous membrane over it was natural. In its enlarging, it had pushed the hard palate somewhat over toward the left side, so as to form a sort of heaped-up crest. It gave her no pain, but caused some trouble in swallowing,

The two incisors were extracted, but without any change being produced in the cyst. Some months later, with a trochar, some yellowish serous fluid was let out. The cyst was injected with Morton's fluid, and a cure was effected.—*Saucerotte, Gaz. Med.*, 1856, p. 415.

Mr. Bryant (Guy's Hospital Reports, 1869–70) gives the case of a woman of 25, who had a tumour of the palate of fifteen years' duration. It was the size of a walnut, irregular, bossy, springing from and involving the back part of the left half of the hard palate. It appeared to be made up of cysts, and some of the cysts were translucent. It gave very little inconvenience, and no pain. Mr. Bryant punctured one or two cysts, letting out clear tenacious fluid mixed with blood. No permanent alteration was produced. The growth "appeared to be of a polycystic kind."

(For cystic sarcoma, see Sarcomata, Case 9.)

In the following case, what was probably a chronic abscess was mistaken for a cyst:—

"I was consulted by a woman who was said to have an abscess of the hard palate, which was giving her much trouble in speech and in swallowing. I found fluctuation, and incised the supposed abscess from before backward; but instead of pus a whitish stuff came out, like the contents of a sebaceous cyst. I was told that the swelling had come slowly and without pain, and that it had

already been laid open twice, and had filled again each time. I enlarged my opening, and plugged the cavity with lint. The patient was completely cured. It was probably an abscess due to alveolar disease, whose contents had become caseous."—*Cruveilhier, Anat. Path.*, iii. 360.

It appears that disease of the alveoli may cause the formation of a blood-cyst. Thus Jourdain[1] gives a case of a fluid swelling occupying all the left half of the palate. One of the incisors was decayed, and there was a fistulous opening above its root. On incision, instead of pus there was a free flow of blood; and on another incision being made some days later, there was another hæmorrhage—a more severe one. Jourdain quotes another case, where a fluid swelling of the palate was first noticed after some ice had been in the mouth; an incision was followed by serious hæmorrhage.

Dentigerous cysts occur not very rarely in the palate. Thus Diday[2] gives a case where a canine tooth was enclosed in a cavity formed in the palate bone, and another where two teeth were enclosed in a similar cavity. The bony wall of the cyst toward the mouth was gradually absorbed, so that the teeth were extracted through the mouth. Rouet[3] gives a case where a tooth was encysted in the middle line of the palatine arch. In the Musée Dupuytren (Catal. iv. p. 213) is a specimen taken from the body of a man aged 20. It shows all the sixteen upper teeth in their proper places; but in the left half of the palate, near the middle line and the alveolar border, there is a canine tooth which has pierced the bone and has stretched the mucous membrane over itself. There are similar specimens in the Museum of the College of Surgeons. Magitôt[4] records two cases: one of an old woman of 74, who had for many years a hard swelling on her palate the size of an almond. At last it began to give her pain, and after a short time a canine tooth broke its way through. The other, of a man of 30, who had for eight months noticed a hard swelling on the right side of his hard palate. It was associated with weakness of the right external rectus muscle, and afterward with neuralgia. On incision, pus was let out, and a canine tooth was found in the cavity.

Vascular Growths.

Nævoid growths of venous tissue have been observed on the palate. From the following cases it appears that they are usually of a purple or livid tint, and of a soft, spongy, or doughy feel; that they have a tendency to bleed, and may vary in size, now

[1] Maladies de la Bouche, i. 437.
[2] Thése de Paris, 1839.
[3] Bull. Soc. Anat., December 1854.
[4] Centralbl. f. Laryng., i. 119.

larger, now smaller. Gross, beside his own case, mentions another vascular tumour of the palate, which "bled, as it seemed, vicariously for the menses."

It is to be observed that the operations recorded for their removal were done before the days of electrolysis, and most of them without anæsthetics.

1. A man, aged 47, had in boyhood a tumour of his palate the size of a pea. It now was the size of a chestnut, and caused difficulty in breathing. It lay on the right side of the palatine arch, toward the back of it: it was soft and moveable, and of a dark purplish colour with reddish spots and streaks. At the operation it was seized with vulsellum forceps, and removed with curved scissors. There was free venous hæmorrhage, checked by pressure and the use of styptics. The tumour consisted of a network of vessels, mostly veins, joined together by very delicate connective tissue.—*Scarpa, Opusc.*, ii. p. 193, ed. 1825.

2. A man, aged 44, had for twelve years noticed a tumour in the roof of his mouth: when he first noted it, it was the size of a small hazel-nut, and fixed, and overrun with veins. It now occupied the whole palate; it was fixed, not elastic, firmer than a fatty tumour, and broader posteriorly than anteriorly: it gave trouble in speech and deglutition. At the operation, a rush of blood took place when the envelope of the tumour was divided, and the tumour was part cut and part torn off as quickly as possible. The bleeding was very free, and was stopped with the actual cautery. To the naked eye the texture of the tumour was like lung-tissue in an early stage of inflammation. It consisted of a venous network with granular interstitial connective tissue.—*Vidal de Cassis, Path. Ext.*, iii. p. 502.

3. A man, aged 45, had a congenital vascular erectile tumour of the palate. It was ovoid in shape and of a dark livid colour: it had caused partial absorption of the bone.—*Gross, System of Surgery*, ii. p. 467.

4. A woman, aged 50, had a venous erectile tumour of the right half of the palate. She had first noticed it twelve years ago. The growth varied in size from time to time, and attempts to treat it by compression did more harm than good. It became smaller after an incision had been made into it, but afterward it grew again. As it had first been noted after fracture of an upper incisor on the same side, the fractured tooth was extracted, with the result that the tumour again became smaller, and almost

disappeared; but afterward it grew again.—*C. S. Bate, Amer. Journ. Dent. Sc.*, 1855, p. 150.

5. A boy, aged 12, of scrofulous diathesis, had long been the subject of a tumour of the palate, but it had been neglected in the care of his general health. It now occupied all the palate, and nearly filled the mouth when it was shut. It was firm, of irregular outline, with spongy brown protuberances, which bled very easily. An incision into it was followed by bleeding so severe as to cause syncope. The growth was plugged, and three days after it was ligatured. There was no recurrence three years later. The growth was found to be a "varicose tumour of the palatine veins."—*Schmidt's Jahrbuch*, 1839, p. 210.

To these five cases may be added the following case of a tumour described by the surgeon who removed it as an "angio-sarcoma." The patient had at the back of the hard palate, in the middle line, a sessile tumour the size of a pigeon's egg, smooth, pale, and soft. It was removed under an anæsthetic, the head being hung backward and downward. It contained numerous dilated vessels with thickened walls, and here and there saccular widenings. The vessels were surrounded by masses of round cells, which in places were being converted into fibrous tissue.[1]

Aneurysms of the palatine artery have been observed as follows:—

1. A man was accidentally stabbed with a small knife on the right side of the hard palate. Two months later there was a soft pulsating swelling at the seat of the injury; it was the shape and size of a large pea. It was laid open, and the artery was tied at both ends.—*Gross, System of Surgery*, ii. p. 468.

2. A man, after wearing a dentist's plate, which was not comfortable, for some weeks, complained of a small rounded swelling on his palate, just where it had been rubbed by the edge of the plate. The swelling was the size of a large pea; no pulsation was observed in it, nor any other appearance than that of a small cyst. It was laid open with a pair of curved scissors, and at once a rush of blood came in jets, almost suffocating the patient. It was, however, stopped by pressure.—*Castle, Gaz. Med.*, 1851, p. 789.

3. A man, aged 74, had a small soft swelling in the roof of his mouth; it pulsated, and could be made to disappear under pressure, and there had been frequent hæmorrhages from it. It was

[1] Centralbl. f. Laryng., ii. 441.

of three months' duration, and there was no history of any injury. It was treated with the actual cautery; the eschar fell off on the ninth day, leaving a healthy granulating surface.—*Teirling, Gaz. Med.*, 1856, p. 343.

Castle quotes, as parallel to his own case, one recorded by Herapath (*Lancet*, ii. 1850, p. 46); but this latter was probably only a wound inflicted on the artery in the incision of a small alveolar abscess in its neighbourhood.

Treatment.—It is probable that for the treatment of these small aneurysms and nævoid growths electrolysis is best.

Cartilaginous and Bony Growths.

These seem to be very rare, and of no particular interest. Diday records one case of an osteoma of the arch of the palate, having its lower surface level with the teeth, and he quotes another case of a similar tumour growing from the posterior part of the palate. Fox (Diseases of Teeth, 1814) mentions the case of a young lady in whom a "cartilaginous substance" formed in the roof of the mouth; it was dissected out by Abernethy. He also figures a case of "exostosis of the palate;" but it does not appear to have been more than a downward extension of the vomer, so that the palatine suture is heaped up in a kind of thick ridge. Such a ridge is not very rare; it was thought by Cruveilhier to be a sign of congenital syphilis. Jourdain gives a case of osteo-cartilaginous tumour of the palate in a man of 30. It was of seven years' duration. It occupied the whole palate, so that the man could only take liquids. An incision was made through its base, and it was removed. Hæmorrhage recurred some hours after the operation, and the actual cautery was applied.

Calcareous Deposits.

Beside the occurrence of calcareous salts in the substance of other tumours (see pp. 332, 336), there are two cases recorded by Anselmier (*Union Med.*, 1856, p. 509) of masses of calcareous salts embedded in the soft palate.

1. A boy of 16 complained of some difficulty in respiration and deglutition, which had lasted a considerable time. He had two masses in the soft palate, one on each side of the uvula. They were the size of hazel-nuts, hard, rounded, and moveable under the mucous membrane, which was healthy but reddened. On the introduction of a probe through the dilated mouths of the palatine glands, it felt as though a stone were struck. A fragment of lime

rag dipped in dilute sulphuric acid was introduced into one of these dilated glands and pushed down upon the calcareous deposits; it was hoped that it might dissolve them. The next day they were gone.

2. A man of 25 complained of difficulty in respiration. His voice was nasal and his throat felt uneasy. At the base of his uvula, and along the free edge of his soft palate, were three small swellings the size of large peas. They were rounded, fixed, indolent; the mucous membrane over them was healthy. They gave the same sensation of a stone being struck as in the former case; the same treatment was adopted, and they disappeared in four days.

No similar cases appear recorded, nor is it certain what was really the matter in these two; but the occurrence of calculi in the ducts of the salivary glands may throw some light on Anselmier's cases. His treatment of them was certainly ingenious and successful.

Polypoid and Warty Growths.

Polypoid growths of the palate are not very uncommon. They are, as a rule, delicate little outgrowths of connective tissue, attached by a slender thread-like pedicle either to the uvula or to the soft palate near the uvula, never to the hard palate; in their colour and outline some of them look like extra uvulas. A common place for them[1] is the angle between either border of the uvula and the neighbouring border of the soft palate. Sometimes two are found symmetrically placed one on each side of the uvula; sometimes they occur in connection with similar growths on the tongue or on the larynx. As a rule, says Courtade, their surface of stratified epithelium is mammillated or finely wrinkled or roughened with minute filiform papillæ like those on the tongue; their pedicles are covered by the same kind of epithelium, but smooth, not papillated. Their lymph-spaces are well developed; their blood-vessels are large, and dilated even to the extent of forming a sort of cavernous tissue; they contain no glandular tissue; and nerve-fibres have been found in one case, and not in another. They do not seem to occur in childhood, and they are much commoner in men than in women.

Another form of the same sort of growth is the true warty

[1] "Als hauptsächliche Sitze der polypöse Geschwülste der Rachenorgane lassen sich aufführen (1) die Uvula, von deren seitlichen Rande, nahe der Spitze, sie nach abwärts hängen (2) an der Basis des vorderen Gaumenbogens; hier hab' ich 4 mal Papillome gefunden, bei jungen Männern mit chronischem Rachenkatarrh; (3) am freien Rande des vorderen Gaumenbogens."—*Gerhardt, Centralbl. f. Laryng.*, i. p. 21.

florid papilloma, with little or no pedicle, but resembling venereal warts, and sometimes due to syphilis. This form of papilloma may extend over the whole palate, and may become the seat of cancerous disease.

Courtade,[1] in his thesis, suggests that chronic pharyngitis, which was present in seven out of ten cases of these growths, may help to cause them in persons predisposed to them. The same view seems to be taken by Dr. Stephen Mackenzie[2] of similar growths in the pharynx, and by Gerhardt in the note just quoted. But the occasional symmetry of the polypoid growths, and the fact that they occur chiefly in one part of the soft palate, and never on the hard palate, and never show the least sign of suppuration, are evidence that previous inflammation has not much to do with the production of them. They are allied to the large pendulous fibro-cellular, myxomatous, and fatty growths which occur in the pharynx, which have nothing at all to do with any previous inflammation.

These polypoid growths of the palate may exist for years without any symptoms, and may be found only by accident. More often they produce a tickling of the back of the throat, with frequent efforts at swallowing. In Gerhardt's two cases (Nos. 14 and 15) the laryngeal nervous symptoms are of very great interest. He quotes another similar case. In another very interesting case one of these growths caused hysterical crises of an epileptiform nature;[3] and the writer has lately had under his care an invalid in whom a distinctly epileptiform seizure, with choking and sense of suffocation just preceding it, appeared directly due to a very hypertrophied uvula.

The removal of these little growths is indicated; for apart from the inconvenience of them, they may increase in size, or may even change their character and become malignant. In the case of the true warty growths, syphilis may be concerned.

The cases that follow are, to save trouble, arranged in a tabular form.

[1] "Cette inflammation chronique de l'arrière-gorge provoque une suractivité du côté de la muqueuse du voile du palais dont les papilles sont déjà volumineuses, et devient ainsi une cause d'hypertrophie. . . . Mais l'existence d'une pharyngite chronique ne suffit pas à elle seule pour donner naissance à un papillome, pas plus qu'un écoulement vaginal ne s'accompagne fatalement de végétations vulvaires, bien que ce soit le plus souvent une des principales causes. Il faut faire une large part à l'inconnu."

[2] He speaks of a small oval semitransparent innocent polypus, growing from the right side of the gullet, an inch below the cricoid, as "a polypus arising from inflammation of the œsophageal mucous membrane."—*Mackenzie, Diseases of Throat and Nose*, ii. 105.

[3] "Chez un malade de 19 ans que Herzfelder a observé, un polype papillomateux du voile du palais donnait lieu, quand il était couché, à des crises hystériques, épileptoïdes, qui disparurent après l'extirpation de la tumeur."—*Courtade.*

No.	Reference.	Sex and Age.	History.	Tumour.	Treatment.	Remarks.
1	Courtade.	M. 50	No symptoms at all.	He had two perfectly symmetrical filamentous outgrowths, one from either border of the uvula: they were cylindrical, 10 mm. long by 1 thick. They showed no thickening of their ends; no warty growth.	Removed.	A polypoid growth, of a sarcomatous nature, had been removed from the larynx a few months ago. The microscopic structure of the palatine outgrowths was like that of the pedicles of the polypi which have thickened ends.
2	Courtade.	F. 41	Hæmoptysis 20 years ago; cough ever since. Of late has had a pain in swallowing, and coryza, followed by dryness of the nasal passages.	A large papilloma grows from the base and left side of the uvula.	Removed.	A polypoid growth on the tongue, to the right of the middle line, was removed a month later.
3	Semon.	M. 30	No symptoms at all.	He had two perfectly symmetrical outgrowths, one from either border of the uvula: they were reddish, longish growths: it looked just as though he had three uvulas.		Compare Case 1.

4	Courtade.	M. 33	Has suffered from bronchitis, and is very nervous. A month ago he had sudden constricting pain, like strangulation in the throat, and was treated for laryngitis.	He had now a small pedicled growth hanging from the soft palate near the uvula: it is about 1 ctm. long, and is wrinkled, and rough with long filiform papillæ, like the tongue.	Removed with scissors.	"Les symptômes diminuent rapidement après l'opération. Les mouvements de déglutition incessants ont disparu; la sécrétion nasale, abondante avant, diminue à partir de ce moment."
5	Courtade.	M. 20	Had for a few days felt tickling at back of throat, causing frequent swallowing.	Has a growth from one side of the palate, 1 ctm. long, with a long narrow pedicle.	Easily removed; no bleeding.	
6	Courtade.	M. 25	Chronic pharyngitis of many years' duration: slight deafness 6 years.	A flattish growth, rough and wrinkled, the size of a lentil, just in front and to right of uvula.	Removed.	Signs of old inflammation of membrana tympani and of laryngitis. There were never any symptoms referable to the tumour.
7	Courtade.	M. 32	Pharyngitis: congestion of epiglottis. For last eight days a cough, which ceased when he lay down.	On the left anterior pillar of fauces is a red flattened vegetation with a thick pedicle.	Removed with galvano-caustic loop.	
8	Courtade.	M. 40	Chronic glandular pharyngitis: hypertrophy of inferior turbinated bones.	A little to the left of the tip of the uvula is a growth about 1 ctm. long, with a very narrow pedicle.	Removed with scissors.	There was some bleeding, stopped by zinc chloride.
9	Riley, Phil. Med. Times, 1880.	M. 32	Complained of deafness: tumour discovered by chance.	Large papilloma pendent from tip of uvula.	Removed: bleeding profuse.	He was entirely ignorant of the growth: it had caused no trouble, not even cough.

No.	Reference.	Sex and Age.	History.	Tumour.	Treatment.	Remarks.
10	Heath, Diseases of Jaws.	F. 18	No symptoms: came to have her teeth stopped.	A pedunculated papillomatous growth half inch long, from left side of soft palate.	Removed: rather profuse bleeding.	It was a compound papilloma, of enlarged fungiform and filiform papillæ.
11	Wilks, Path. Trans. vii.	M.	Irritation in throat some weeks.	Tumour very like uvula, growing from soft palate near uvula.	Removed easily.	Compound papilloma.
12	Verneuil, Soc. Anat., 1858.	F. 12?	Had lately had inflammation of throat, which left a persistent dry cough.	She has a tumour 3 ctm. long, hanging by a pedicle from the edge of the soft palate.	Easily removed: no hæmorrhage.	Compound papilloma.
13	Lloyd, Lancet, 1881.	M. 17	Noticed two years ago: gives no pain or trouble: sore throat six months ago.	A tumour size of marble, growing from right anterior pillar: pedunculated, pale, soft, freely movcable.	Cut off with scissors: scarcely any hæmorrhage.	Papilloma, very much resembling an ordinary gonorrhœal wart.
14	Gerhardt, Arch. f. klin. Med., July 1873.	F. 20	Frequent swallowing movements, with feeling of a foreign body, followed by transient aphonia. The aphonia became permanent a week before operation.	A pendulous growth 1 ctm. long from the left anterior pillar of the fauces.	Removed with scissors: later, faradisation.	Complete recovery of voice. The aphonia was due to imperfect paralysis of both thyroarytenoids and of the arytenoideus.
15	Gerhardt.	F.	Chlorosis, chronic bronchitis. Frequent pains in the neck: pain on reading aloud, sometimes complete loss of voice.	A very minute polypoid growth on the right posterior pillar of the fauces.	Removal difficult on account of the exceeding minuteness of the growth.	Complete loss of pains in neck: complete recovery of voice. The loss of voice was due to imperfect closure of the vocal cords.

Remarks.—Other cases are recorded (Semon, St. Thom. Hosp. Reps., 1883), but this table may suffice to show that the true polypoid growths of the palate are always of the soft palate, and are usually placed at its free edge, near the uvula: that they are soft, rounded, slender outgrowths, which, as a rule, have a body and a pedunele, bnt may be mere rounded outgrowths, like the uvnla itself. Moreover, they may be double and symmetrical, one on each side of the nvula. Thus, they are not like the products of irritation or inflammation; and though we may not disregard the view, taken by Conrtade and others, that chronie pharyngitis is an exeiting eause of them, yet we must give due importance to that "inconnu," the predisposing eause.

But with regard to the florid warty growths, like eauliflower-heads, these probably do arise, in many eases, from pharyngitis, simple or syphilitie: as in the two following eases:—

1. A young man had for a year noticed a warty growth on his uvula. A year earlier he had an "infecting chancre," with general glandnlar enlargement, but no mucous tubercles. The present growth gives him no trouble; it covers the whole right border of the uvnla, and is florid, warty, mammillated, and freely moveable. It is a simple papilloma.—*Nepveu, Bull. Soc. Anat.*, 1875.

2. At a meeting of the Société Anatomique, M. Laborie showed an outgrowth of a syphilitic character from the tip of the uvnla. It had a pediele half an inch long, bearing a cauliflower head the size of a large pea. Before removal it was of a bright red tint; it had eaused feelings of suffoeation.—*Soc. Anat.*, April 1838.

The following ease of trne warty growths of the palate is very interesting:—

"A man of 48 had the whole of the left side of his palate, both soft and hard, eovered with a florid vasenlar easily-bleeding warty growth, of only six months' duration: painless. Many of the papillæ were over a quarter of an inch long. The growth was "kept in abeyanee" with cansties. After a time it grew more quickly, and beeame malignant.—*Gross, System*, ii. 467.

For the uselessness of eausties, compare page 347. It would have been better to remove the growth freely. A similar warty growth diffnsed far and wide inside the mouth of a dog was lately shown at one of the Societies.

"*Adenomata.*"

There is much uncertainty as to these tumours of the palate: it appears to be a name given to any solid indolent innocent sessile tumour, without much regard to microscopic structure. In most of the recorded cases there is no account of microscopic appearances; and the accounts that in other cases are given do not appear to have much in common. In two cases lately reported by the writer to the Pathological Society, where the history, manner of growth, and naked-eye appearances of the tumours made it certain that they were absolutely innocent, there were masses of epithelial cells with cell-nests. The word "adenoma" applied to tumours of the palate has only a clinical value: it means only an innocent tumour, very slow in growth, firm, limited, and, as a rule, shelling-out easily. These facts are shown by the following table of cases:—

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
1	Bryant, Pract. Surg. vol. i.	M. 38	Six years' duration : six weeks' serious interference with speech and deglutition	A globular fibrous growth, size of an unshelled walnut, in posterior and upper part of right half of soft palate.	Enucleation after free incision. Tracheotomy to avoid suffocation.	Alveoli of fibrous tissue filled with epithelial cells.	Trendelenburg's tampon was used, and found to be of great value.
2	Michon, Bull. Soc. Chir. ii. 434.	M. 36	Ten years' duration : interference with speech and deglutition and respiration, especially during night.	A rounded, lobular, firm growth, the size of a hen's egg, in the left half of the hard palate. The mucous membrane over it was red, smooth, moist, and free from ulceration. There were no enlarged glands.	Enucleation with the fingers, after an incision round.	Tumour showed :— 1. Glandular culs-de-sacs. 2. Nucleated epithelium, free or in masses. 3. Cell-nests (?).[1] 4. Fibro-plastic elements, and tracts of fibrous tissue.	
3	Nélaton, Lectures, p. 483.	M. 28	Fifteen years' duration.	A hard, moveable, non-adherent growth, the size of a hazel-nut, in middle line of the soft palate.	Extracted with the greatest facility.	"Glandular."	
4	Nélaton, Monit. des Hop. 1857.	F. 26	Very long duration : had lately been growing more rapidly : con-	A smooth mass, filling the cavity of the mouth, depressing the tongue,	Free incision over tumour and enucleation. A hole	Adenoma.	Nélaton began meaning to ligature the

[1] "Noyaux entourés de leurs cellules."

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
			stant trouble in speech and respiration, with attacks of suffocation; deglutition almost impossible. Danger imminent.	touching the epiglottis, and pushing the soft palate up and back. Mucous membrane thinned, but healthy; not adherent or ulcerated; no glands enlarged.	was left in the bone.		tumour, but found that it shelled - out with ease. The hole closed, all but an opening 3 mm. broad.
5	Nélaton, Monit. des Hop. 1857.	M. 34	Twenty years' duration: had lately been growing more rapidly, and extending toward tonsil. Voice nasal. Can swallow solids easily enough, but fluids are apt to return through the nose, or get into the air - passages. General health good.	A hard growth in the left half of the soft palate; it did not project from the back of the palate; it was the size of half of a hen's egg lengthwise. Mucous membrane over it was smooth and freely moveable, and showed one large vein. No glands.	Free incision over tumour and enucleation with a spatula, and with one finger put up behind the soft palate for a *point d'appui*.	Adenoma, with traces of fatty and calcareous patches.	"Solide, et même d'une dureté assez considérable, rappelant celle de certaines tumeurs fibreuses ou des ganglions lymphatiques atteints d'inflammation chronique." The finger put up behind the soft palate was found very useful; it checked the bleeding; there was only slight oozing, stopped by syringing.

6	Syme, Bull. de Thérap. li. 186.	M. 38	... ...	A hard, slightly moveable growth in left half of soft palate, 4 ctm. in diameter.	Free incision over tumour and enucleation, with touches with the knife.	Adenoid. "Un spécimen parfait de ces tumeurs fibreuses qu'on trouve si souvent dans la parotide ou la mamelle."	No ligature needed. It looked at first like an hypertrophied tonsil.
7	Patterson, Glasg. Med. Journ. 1880, p. 240.	F. 66.	Eighteen years ago she noticed a small growth at the junction of the soft and hard palate, on the left side. It increased very slowly. She is very feeble.	Growth completely fills cavity of the mouth, so that its attachment and relations cannot be defined. Nostrils quite free. She can swallow fluids and soft solids.	The cheek was split, and a ligature was put through the tongue. He then scratched through the capsule, and enucleated the tumour with his finger.	Adenoma. In some parts mucoid degeneration of the cells. In one part great condensation of tumour, with new formation of connective tissue.	Enucleation was both difficult and tedious. The only blood lost was from the division of the cheek. This healed by first intention; but she never rallied from the operation, and died on the sixth day.
8	Nélaton, *sup. cit.*	F. 15.	Noticed four years ago; then almost as big as now. Slight trouble in swallowing; speech a little altered; respiration perfectly natural. It had been incised, but only blood came, and the incision did not close.	A hard growth, softer centrally, the size of half of a hen's egg; occupies most of the left side of the palate, both hard and soft; mucous membrane over it normal in colour.	All that part of the tumour which occupied the hard palate was removed, and its base cauterized.	Glandular (Fano). Benign epulis (Nélaton).	A second operation, to remove the growth from the soft palate, was refused. This remaining part of the growth disappeared of itself later on.

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
9	Nélaton, *sup. cit.*	M. 50.	Noticed ten months ago; only discovered by his feeling slight difficulty in speech and respiration. He looked in a glass and found the tumour, but took no account of it. Lately, increased dyspnœa.	A growth, size of a nut, in the right half of the soft palate, pushing the free edge of it down behind the tongue, and pushing the uvula to the left; seeming indeed to grow over the middle line. Palate perfectly moveable. Mucous membrane perfectly movable over growth.	He made an incision over the tumour, and with his two index-fingers enucleated it "with the greatest ease and speed."	Glandular; encapsuled; softer than usual; "contenant une pâte, une bouillie rougeatre dans laquelle on distinguait des lobules intacts."	
10	Velpeau, *ibid.*	F. 32	Twelve years' duration.	A lobulated, hard, elastic growth, at the back of the arch, to the left, near the middle line. It has a vascular pedicle 1 ctm. diameter. Mucous membrane normal.	Removed. Free bleeding stopped by perchloride of iron.	Adenoma.	Bleeding recurred from a little artery at the back of the wound: was stopped by actual cautery and dry lint.
11	De Bergerac, Gaz. Hop. 1855, p. 162.	F. 60	Twenty years' duration. In the last six months it has grown rapidly.	A round, smooth, resistent, elastic growth, occupies upper part of soft palate, and posterior fourth of hard, and back of R. alveolus. Adherent by a wide base. Mucous membrane intact.	Extirpation.	Adenoma, with phosphatic concretions.	

12	Velpeau, Mon. Hop. 1853, p. 1134.	M. 31	Twelve years ago he had frequent difficulties in swallowing: he put his finger in his mouth, and found a tumour the size of a small nut. Taste and resp. normal: voice rather thick: fluids return by the nose, and there is some dysphagia: he swallows and retches and spits often.	A nodular, hard, elastic growth occupies all the R. soft palate, and a little of the R. hard palate: size of a walnut. Nowhere adherent. Mucous membrane is normal, and not adherent.	Removed by two incisions circumscribing it. Free hæmorrhage.	Adenoma.	
13	Marjolin, Bull. Soc. Chir. ii. p. 79.	F. 40	Duration uncertain. She had been treated with iodide of potassium without result.	A hard, irregular growth in the back part of the palate the size of a hazelnut.	He made an incision over the tumour, then put his finger up behind the soft palate, and enucleated the growth easily.	Adenoma.	For this method of removal compare Case 5.
14	Tillaux, Gaz. Hop. 1885, p. 258.	F. 49	A year and a half ago had frequent epistaxis, followed by obstruction of the right nostril. Had noticed prominence of right half of soft palate for a year. Frequent headaches, always on right side of head. Loss of smell in right nostril, which is completely blocked. No discharge; no deafness.	A smooth, hard, immoveable growth, occupies right half of soft palate, at its line of union with the hard palate.	He incised the palate under cocain, and enucleated the growth forthwith.	Adenoma.	From the early epistaxis and complete obstruction of the nostril, it is probable that the tumour arose in the posterior layer of the palate above the aponeurosis.

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
15	Heath: Ashhurst's Dictionary, v. 522.	F. 34	Slow growth. It interfered with her singing.	A circumscribed growth in the soft palate.	Tracheotomy first, with Trendelenburg's tampon. Enucleation; then removal of capsule.	Adenoma, contained in a distinct cyst.	"I incised the tumour, and was agreeably surprised to find that I was able to turn out with my fingers a soft mass of gland tissue distinctly encapsuled." *Contrast*, p. 349.
16	Boyer, Med. Chir. v. 349.	F.	More than ten years' duration. Now has considerable trouble in deglutition.	A hard growth, the size of a nut, occupies the palate, a little beyond the middle of it.	He removed the growth with a bistoury, and rasped the palate underneath.	Adenoma (?).	No recurrence eight years later.
17	Bruch, Soc. Clin. Dec. 1885.	M. 44.	Noticed ten years. Bled slightly some years ago, and again a month ago; now gives trouble in speech and swallowing.	A hard, clubbed growth, the size of a pullet's egg, inserted by a broad pedicle into the right half of the hard palate.	Removed with galvano-caustic loop.	Papillary adenoma.	
18	Langier, Mon. Hop. 1856, p. 441.	M. 52.	Voice has been nasal for fifteen or twenty years. Only noticed tumour a few days ago. Respiration and deglutition normal.	A hard, nodular, ovoid growth, quite free and circumscribed, occupies the whole of the left half of the soft palate. It is of the size of a pigeon's egg. Mucous membrance is healthy and moveable.	He died from other causes just before the operation. The growth was easily removed after death by enucleation.	Adenoma, with much fibrous tissue; very scanty supply of blood-vessels; some calcareous concretions.	

19	Syme, B. M. J., April 1862.	F. 46.	Two years' duration; "uneasy sensations of variable degree."	A rounded, convex growth, soft at the centre, but hard at the base, covers the posterior two-thirds of the palate.	Syme embraced the whole tumour with a trephine, and removed bone and all.	Adenoma ?.	The trephine caused no hæmorrhage, and the operation only took a few seconds. A small hole remained when patient left the hospital.
20	Bryant, Guy's Hosp. Reports, 1869-70.	F. 25.	Six years ago an abscess about the first left upper molar. Since then always some enlargement about the palate. Other abscesses in the same place four years and three years ago.	A smooth, hard, fibrous growth, elevated about ½ inch, covers the whole of the left side of the hard palate, and also involves the alveoli and the teeth. Not painful.	The growth was completely scraped off, and all bleeding was stopped with the actual cautery.	"Of the glandular or myxomatous kind."	
21	Verneuil, Bull. Soc. Anat. 1872, p. 353.	F. 58	Six years ago, having a toothache, she looked inside her mouth, and saw a growth the size of a small nut in the soft palate, near the middle line. It has grown slowly but regularly. Father and one brother died of cancer of the stomach. She is deaf on the right side. Her voice is nasal. She has	A smooth firm growth occupies the right side of the soft palate, and extends forward to the second molar; it pushes the uvula to the left. It is moveable from before backward, and of the size of a large nut. It can be felt projecting posteriorly, and the right nostril is partly blocked. The mucous membrane over the	An incision was made over the growth, and after some dragging and freeing of the growth it came out whole. No bleeding.	The tumour is greyish peripherally, yellowish centrally. The periphery is formed by salivary glandular tissue. The centre is formed of groups of fat cells lying in a mucous tissue of stellate cells, and au intercellular substance exactly	The tumour was called "adeno-myxoma" by Verneuil, and "myxo-lipoma" by Fano, who adds, "Ce myxome lipomateux, assez commun dans la parotide, montre l'étroite liaison qui existe entre

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
			some trouble in swallowing solids.	growth is healthy and moveable, with some rather large veins. No enlarged glands.	... ...	like mucin. In this stroma are lobules of hypertrophied gland tissue, some of which is undergoing mucoid change. There was a small cyst near the surface of the tumour, with viscid fluid.	toutes les glandes salivaires, même au point de vue des dégénérescences."
22	Dr. Post, N. Y. Med. Rec. 18, p. 100.	F. 45	Noticed one month. No pain.	A firm growth in the right half of the soft palate, measuring 4 ctm. long by 3 broad.	A free incision, and easy enucleation with a rasp.	Fibrous, with a small cyst at one end.	
23	Gross, System of Surgery, ii. 467.	MS	Had grown rapidly. Interfered with speech, respiration, and deglutition.	A firm, greyish growth, the size of a small walnut, growing from the arch of the palate, and hanging down into the fauces.	"I twisted it off with a double cannula, armed with a stout silver wire."	"Adenoma."	
24	Cabot (quoted by Gross).	...	Eighteen months' duration.	A rounded, yellowish-white, nearly smooth growth on the hard palate, somewhat tender. It had, in one part, a warty appearance. It had a distinct capsule.			

25	Hutchinson (Path. Soc. 1886).	F. 30	Swelling noticed more than a year.	At the junction of hard and soft palate on left side is a very firm, elastic, round, painless growth, very ill-defined, ulcerated at centre, exposing bone.	Very free removal; periosteum scraped off and bone cauterised.	"Adenoma." No microscopic examination.	A bit of bone exfoliated, but the wound healed well. No recurrence ten years later.
26	Ibid.	M. 50	Eighteen months' duration.	Larger than 25, but otherwise just like it. Very ill-defined; a deep ulcer in centre, like a large open follicle of the tonsil, containing a cheesy pellet.	Very free removal, including in one part the whole thickness of the soft palate.	"Mixed adenomatous type; ducts and numerous acini like those of salivary glands, and follicles filled with lymph-cells.	
27	Deakin, B. M. J. Aug. 30, 1884.	M. 18	Duration not known. Swallowing of solids impossible, of fluids very difficult.	Large cauliflower growth completely filling the mouth, growing from the back of the left half of the hard palate.	Lower part of jaw removed. Patient narrowly escaped suffocation under $CHCl_3$, from tumour slipping back into pharynx.	"Fibro-myxoma."	
28	Nélaton, Gaz. Hop. 1862.	M. 25	Three and a half months ago he felt a little difficulty in swallowing; a month later he discovered the tumour, which has grown rapidly. Now trouble in respira-	The growth occupied the whole of the left side of the soft palate, pushing the uvula to the right. It was impossible to get the finger round its lower edge. Its upper part was smooth, regu-	An incision was made over the tumour, and it was easily enucleated.	"La masse blanchâtre est une hypertrophie glandulaire, de la nature des amygdales. On y trouve des culs-de-sacs hypertrophiés et	It was "harder than an adenoma, owing to its large quantity of fibrous tissue." Some of the culs-de-sacs were big

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
			tion, and still greater in deglutition. Voice much altered.	lar, and uniform; its lower part was unequal, wrinkled, and tuberculated.		d'autres de nouvelle formation, de l'épithelium nucléaire et du tissu fibroplastique."	enough to be seen with the naked eye.
29	T. Smith, St. B. H. 1886.	F. 21	Four years' duration: no marked symptoms, but slight change in speech for two years or more. Two months' pain on swallowing. Three weeks ago there was a "gathering" at the back of the growth, which broke.	A small, smooth, rounded growth, elastic almost to fluctuation, occupies the right half of the hard palate. Mucous membrane over it is natural. Growth is ovoid, ¾ in. in length, ½ in. across.	On puncture, no fluid. The mucous membrane was incised, and the tumour was easily enucleated.	Epithelial, with cell-nests as well as embryonic gland tissue. Hyaline granular substance, apparently from degeneration of epithelial cells. Masses of embryonic connective tissue.	It lay in a smooth shallow pit in the bone, just as a dermoid cyst lies on the frontal bone.
30	Walsham, St. B. H., 1886.	F. 40	Fourteen years' duration, more rapid of late.	A small, smooth, elastic growth occupies the left half of the hard palate: it has the same shape and dimensions as 29. It is freely moveable, and the mucous membrane is freely moveable over it.	An incision was made over the tumour, and it was easily shelled-out.	Masses of cells, mostly small round embryonic, but some epithelial, with nests. Much connective embryonic tissue and glaud tissue.	

31	Stokes, Med. Pr. and Circ., Sept. 1879.	M. 8	Six weeks ago "they observed a sudden change in his voice, and found a lump in his mouth." No dysphagia. No nasal obstruction.	There is an elastic, unequal, nodular growth in the left half of the soft palate: it overlaps the middle line, but does not pass it. It has no bony attachment, but is lodged in the substance of the soft palate. Numerous vessels ramify over it. The mucous membrane, which is slightly excoriated, moves freely over it.	An incision was made over the tumour: the mucous membrane was easily detached, and the surgeon "eventually succeeded" in enucleating the growth. There was very smart bleeding. No ligatures necessary.	Fibrous tissue over a cartilaginous matrix: "it has also masses of round cell, evidently of a recent growth, and of a more or less sarcomatous nature."	This tumour is not really an adenoma, but it is put here as being halfway between the innocent tumours and the sarcomata.

Remarks.—First, it is most important to observe that these tumours are innocent. Though most of them had been in existence for many years before removal, yet there is not a single case where the lymphatic glands or remote organs were affected; nor is there any case recorded of recurrence of the growth after removal. Clearly these tumours are innocent: we must not call them sarcomata because embryonic tissue is found in them, nor must we call them carcinomata because epithelial cells and cell-nests are found in them. They are equally common in men and in women. They appear usually either about puberty or between 40 and 50; thus the *average* age of their appearance is about 30. They are much more common in the soft palate than on the hard, and rather more common on the left side than on the right. Their growth is extraordinarily slow, and they usually remain for a very long time without giving trouble, or even without being noticed at all. Thus, six of those here tabulated had lasted undisturbed for more than five years, and nine had lasted for more than ten years. There is surely no other place in the whole body where a visible and tangible growth could for so long a time be known to exist and yet be left undisturbed. But, as one patient said, "I never looked inside my mouth." We are never conscious of our palates, as we are of our lips and tongue; least of all are we conscious of our soft palates.

In shape these "adenomata" are rounded or oval, with their long diameter from before backward; they are sessile, very rarely pendulous. In consistence, they vary from an elasticity so well marked as to imitate fluctuation to a hard inelastic toughness like that of an old inflamed gland: but, as a rule, they are elastic. They may be softer at their centre than at their base or their periphery. The mucous membrane over them may be papillomatous, or marked with fine wrinkles. It may be thinned from inside by the pressure of the growth, but it very rarely adheres or ulcerates. Even if it is thinned, it remains healthy and freely moveable and unbroken over the growth; it may even be pinched-up in wrinkles over it. The growth itself is, in nearly all cases, freely moveable. If it is in the soft palate, it just lies embedded there, free from any attachment to the bone; if it is in the hard palate, it may rest in a smooth shallow pit in the bone, as a dermoid cyst rests in a pit on the frontal bone: but it does not, as a rule, grow from the bone.

Though these tumours are so indolent, they may, after years of very slow increase, begin to grow quickly; nor does it appear that this increased speed of growth is necessarily due to any change of type.

Mr. Hutchinson has called attention to the slow perforating

ulceration which occurred in the two rare cases (25 and 26) which he lately published. There are, it appears, three ways in which ulceration of tumours of the palate may occur. It may begin in simple excoriation, as in Case 31. It may be due to fungation of a malignant growth, as in case of the true cancerous growths of the palate; or it may be due to central softening or degeneration of the growth, as in Cases 8, 9, and 19, just recorded.

In structure these tumours are most perplexing. They may contain glandular tissue, yet not usually well-formed ducts and acini, but masses of epithelial cells, without any very definite shape or arrangement, part being developed into gland tissue, part forming true cell-nests, part breaking down into irregular extensive tracts of a hyaline granular substance, amorphous or fibrillated at the edges, a substance not unlike the horny substance inside cell-nests; part forming horny or colloid bodies, not much differing from cell-nests. Blended with this strange epithelial element is a quantity of embryonic connective tissue, or of fully formed fibrous tissue. Myxomatous tissue is also found; and these tumours may imitate the structure of the salivary glands or the tonsils.[1]

There is no single name for such a complex growth as this. It is perhaps best that these tumours should be looked at, not from a microscopic, but from a clinical point of view. They are closely analogous to the tumours of the parotid region. They grow just in the very place where development is most apt to fail or to err—in the very place where dermoid and parasitic growths have also occurred. Their anomalous and heterogeneous character may therefore be due to their being, in some way or other, embryonic. They are as innocent as the babe unborn, and probably of a similar embryonic origin.

Mr. Shattock, in a very valuable note on these tumours which he has kindly sent to me, suggests that the cell-nests may be the result of interstitial pressure. He has found them in one of these tumours removed from the hard palate of a patient by the late Mr. Mason.

With regard to the important case published by Sir William MacCormac in the Pathological Society's Transactions for 1886,

[1] Compare the case of "chondroma of the upper lip," published by Dr. Robinson in the American Medical Association's Journal, September 1886. Patient was a man of 36: growth of two years' duration. "It was 1 inch long by ¾ inch diameter; it was egg-shaped, sharply limited, somewhat encapsuled, and nourished by a small artery entering at the base. The skin and the mucous membrane were freely moveable over the tumour. It consisted of embryonic, glandular, and connective tissue. There were several islands of cartilage, the largest being in the central part of the tumour. All varieties of normal cartilage were met with —hyaline, fibrous, and reticular, and also the variety met with in the heads of cephalopods, namely, cartilage with branched cells."

and at that time called by Mr. Shattock "carcinoma myxomatodes," it is probable, as he himself now thinks, that this also was of the same kind. It was encapsuled, and occurred in a woman of 35. "The tumour consists of hyaline connective tissue traversed by an irregularly branching network of epithelial cells. The relative proportion of these two constituents varies in different parts. In some the cells are in considerable groups, everywhere devoid of lumen; in others the hyaline connective tissue stroma is in the larger proportion, the cell columns being narrow, and often tapering off to the tenuity of a single cell. These latter parts are closely like some forms of cylindroma. The stroma of the tumour is in other spots myxomatous, the cell groups ramifying through the mucous tissue."

Treatment.—In nearly all the cases here collected, enucleation was found to be not only possible, but easy. On several occasions, those who have recorded these cases were surprised at the quickness and ease with which they enucleated the growths. As regards an anæsthetic, cocain has been used with success; but it should be injected under the mucous membrane which covers the growth, and not only painted or sprayed over it. Cocain is helpful, not only as an anæsthetic, but also as a constrictor of the blood-vessels. As regards the operation, it seems better to incise the mucous membrane over the tumour than to attempt to scratch through it. It is important not to wound the growth itself. Any bleeding may be stopped by continued pressure. In enucleation, it has been found advantageous, if the growth is in the soft palate, for the surgeon to put his finger up behind the soft palate, and so to push the tumour forward and hold it steady. It is not easy to see why Mr. Syme, in Case 19, did not simply enucleate the tumour. But the most extraordinary treatment is that recorded by M. Dubrueil in the Gaz. Med. de Paris, 1883. A woman, aged 38, had a hard growth in the left half of her soft palate; the mucous membrane over it was normal and not adherent; there were no enlarged glands. As an incision over the growth was followed by alarming bleeding, he left it half enucleated, and tied the common carotid. An hour and a half later he was told that she was again bleeding. Though he did not find her actually bleeding to any serious extent, he now put two more ligatures on the common carotid, still leaving the tumour loosened and half shelled-out; he also ligatured the external carotid, the internal carotid, the superior thyroid, two veins, and probably also the vagus nerve; at least she had symptoms attributed to "bruising" of the nerve. The bleeding came, he says, from very large vessels going to the tumour; it was partly controlled by pressure on the carotid. He left the tumour to slough out.

Sarcomata.

Though it is impossible to draw a clear line between true sarcoma of the palate and such mixed growths as "cystic adenosarcoma" and "adenomyxoma," and again between these mixed growths and the "adenomata;" yet the sarcomata of the palate are a well-marked group. They are more rare than the innocent tumours; they occur equally in men and in women, and more often in the soft palate than in the hard.

As regards the age at which they occur, if we leave out Case 10, which indeed may have been in other ways exceptional, the average age when the growths were first observed was over 40. The average duration of each tumour before surgical aid was sought was two years, if we except one case where the tumour began to grow rapidly after many years lying quiet. Here we have two clear differences between the "adenomata" and the sarcomata.

As regards structure, the growths were mostly round-celled.

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
1	Macleod, Glasg. Med. Journ. xiii. 240.	F. 53	Two years ago she had some defect in her speech. The doctor found a growth in her throat, and lanced it: only blood came. The growth increased, and she now has dysphonia, dysphagia, and dyspnœa. Nostrils always quite free.	A large tumour, soft and painless, occupies the back of the throat: it seems to grow from the soft palate, and has adhered to the pharynx on the left side. There is a painless, soft, moveable gland at angle of jaw.	Preliminary tracheotomy; then jaw was divided, tongue drawn forward, and sponge put in larynx. An incision was made over the tumour, and it was very easily removed with the fingers. Very little blood was lost.	Round-celled sarcoma, with small amount of intercellular substance.	Next day slight congestion of lungs; great distress from the tube; flatulence. Next day exhaustion and death. The tube should have been taken out at once (*Macleod*).
2	Heath, Inj. and Dis. of Jaws, p. 249.	F. 48	Since childhood a small lump on the hard palate. Two years ago this began to grow steadily, causing dysphonia.	There is a lobed elastic growth, the size of a horse-chestnut, in the left half of the hard palate, extending over the middle line. It moves slightly on the bone. Mucous membrane is normal, and not adherent.	It was incised, and easily shelled-out from a distinct capsule, which was afterward removed with the fingers. A bit of hard palate was left bare, and this afterward was exfoliated.	Small round-celled sarcoma.	
3	Bartleet, B. M. J., 1878, ii. 921.	M. 32	Noticed one year. Very little pain. Had grown steadily.	There is a tumour firmly attached to posterior two-thirds of right half of hard palate. It is	The muco-periosteum was incised all round down to bone, and the	Sarcomatous, consisting of small cells, mostly spherical, lying	The tumour was first punctured, to see if it was fluid.

				nearly globular, and elastic almost to fluctuation.	whole mass was forcibly detached with a raspatory.	loosely in a fibrous matrix.	
4	Foulis, *ibid.*, p. 555.	M. 30	Two years' duration. Very little pain; no cough. Dysphagia. Tumour is scarred from previous use of caustics.	There is a tumour the size of a hen's egg firmly sessile in the right half of the soft palate. Its exact limits are ill-defined. It extends upward and outward, and is prolonged into the region of the tonsil. No enlarged glands.	Laryngotomy was performed, and a sponge put in the fauces. The jaw was divided at the angle, and the lingual nerve was divided. The tumour was now freely exposed; and was carefully dissected out. A large vessel at the lower end of the growth bled freely.	Round-celled sarcoma.	Recovery. The tube was removed immediately after the operation. No recurrence eight months later.
5	Coll. Surg. Mus. 2284.	F. 35	Four years' duration.	Tumour ½ inch diameter.	... ...	Round-celled sarcoma.	
6	S. Paget.	M. 60	Two years' duration. Six months' dysphagia: no dyspnœa.	There is a large tumour, about 1½ inch diameter, occupying the right half of the soft palate, and growing forward over the hard palate: it is soft, and elastic almost to fluctuation. Mucous membrane moveable and normal. No glands.	An incision was made over the tumour, the mucous membrane stripped off, and tumour enucleated easily. Free bleeding from incision, stopped by pressure.	Mixed-celled sarcoma, with marked fibrillation of stroma.	Recovery. The tumour was first punctured, to see if it was fluid. It was well encapsuled, and had no attachments. Palate bone felt quite healthy.

No.	Reference.	Sex and Age.	History.	Tumour.	Operation.	Structure.	Remarks.
7	Treves, Path. Trans. 1885.	M. 68	Thirty-seven years ago a similar growth was removed from same spot, and he was warned against recurrence. Present growth is of eight months' duration; it ulcerated five months ago, and has grown very rapidly of late. No pain.	There is a growth in the left half of the soft palate the size of a large walnut, and 2 inches in circumference; there is a superficial ulcer on it ½ inch in diameter. Mucous membrane not adherent. No enlarged glands. Hard palate normal.	The common carotid was ligatured, and the growth, with the left half of the soft palate, was removed with the knife and the actual cautery.	Faintly encapsuled; pinkish grey on section, and fleshy and homogeneous. An "alveolar sarcoma."	Rapid recovery.
8	Duncanson, Med. Chir. Soc. Edin. 1884–85, p. 41.	...	... ...	Tumour of the hard palate.	Removed after the parts had been well painted with cocain 20 per cent. solution.	A round-celled sarcoma, with myxomatous degeneration.	No pain was felt till the end of the operation, when he felt some pain as the "root" of the tumour was cut.
9	Desprès, Soc. Anat. 1874, ix. 577.	F. 53	Fifteen years' duration.	There is a growth the size of a hen's egg in the left half of the soft palate; it is ovoid in shape, and bossed; fluctuation can be felt where it is most prominent.	It was completely encapsuled, and divided transversely into two nearly equal parts by a plane of fibrous tissue continuous with the capsule. The upper half consisted of a cyst the size of a nut, filled with dark brown fluid, containing granular corpuscles, degenerate fibrin, Gluge's cells, and debris; its walls were covered by rounded masses of soft embryonic tissue. The lower half was made up of smaller similar cysts. "Not an adenoma, but a fibroma which has become sarcomatous."		

10	Heath, Inj. and Dis. of Jaws, p. 253.	Child of 7		A circumscribed growth in the soft palate, presenting almost precisely similar appearances to the innocent tumour described on p. 336 (No. 15).	"Upon cutting into the growth, it proved to be a sarcoma with extensive attachments, which did not admit of removal."	The growth steadily increased, and destroyed life in six months. "Looking back at these two cases, I find it impossible to give any symptom by which they might have been distinguished" (*Heath*).	
11	Treves, Lancet, Nov. 1886.	F. 48	Almost edentulous. For four years she has worn a "false palate," which irritated the front and right side of the hard palate near the alveolus. The tumour was, when first seen, the size of a pea: it has grown rapidly, and has given her severe pain.	A flattened swelling, covered by natural mucous membrane, but very black, or rather mottled in appearance, extending over soft and hard palate.	With chisel and mallet the portion of hard palate containing the tumour was successfully removed.	A large spindle-celled sarcoma, growing from the periosteum.	Recurrence after some months. Note the severe pain: was it due to the periosteum being involved? Is this pigmentation a reversion to the pigmentation of the palates of animals?
12	Gussenbauer, Centralbl. f. Laryng., Nov. 1886, p. 171.	...	Four years previously, first operation: removal of tumour with thermo-cautery and raspatory.	Melanotic sarcoma, extending over soft and hard palate.	Removal of velum and of greater part of hard palate (chisel and mallet), also of both tonsils and part of the pharynx. Free hæmorrhage.	...	The wound healed, and the patient can swallow and speak fairly well (Prag. Med. Wochenschr., 9, 1886).

Remarks.—These tumours differ from the innocent tumours clinically in not occurring at puberty and in growing more quickly. It is important to observe that some of these sarcomata are well encapsuled, and may be enucleated without difficulty.

Case 7, called "alveolar sarcoma," may be considered doubtful microscopically, as Sir W. MacCormac observes that it presented some marked similarity to what the microscope showed in his own case. Its history is curiously like that of Mr. Heath's Case 2.

Despres' case of intracystic sarcoma may be contrasted with Mr. Bryant's polycystic tumour, page 319.

A study of these cases of sarcoma, and of the cases of true cancer which follow, suggests that it is a bad thing if a tumour of the palate extends downward into the region of the tonsil. Such growths are apt to be ill-defined, non-encapsuled. But if the growth advances forward, lying *in* the soft palate and *on* the hard palate, or advances not outward toward the tonsil, but inward over the middle line, then it is likely to be circumscribed and to shell-out.

Treatment.—The uselessness of caustics (see page 329) is shown by Case 4. As regards removal, there seems a fair chance that a sarcoma of the palate may be simply enucleated, if it is not very large, and if it confines itself to the palate, not invading the pharynx and tonsil.

It is hardly possible[1] to say beforehand whether a given tumour of the palate is innocent ("adenoma"), or sarcomatous, or malignant (medullary cancer). But looking at the fact that palatine tumours, taken generally, are circumscribed and moveable growths; and looking at the grave additional risk often involved in tracheotomy,[2] ligature of the carotid, division of the jaw or cheek, &c., especially if the patient be over forty, the surgeon is justified, if the tumour be not very large, not of rapid growth, and not adherent to the tonsil or pharynx, in attempting enucleation without previous tracheotomy or ligature of the carotid.

If preliminary tracheotomy is done, the tube should be removed at once. Dr. Macleod's case may be contrasted in this respect with Dr. Peters' three cases of pharyngeal myxosarcoma. Laryngotomy was done in each, and the tube was taken out at once:

[1] Mr. Heath points out that the history and duration of the growth may help the surgeon to make a diagnosis. But Cases 14, 22, 23, and 28 among the "adenomata" had a history more like that of a malignant growth; and it appears that surgeons have been more often surprised by tumours of the palate shelling-out easily when they were expected to adhere, than by their adhering when they were expected to shell-out.

[2] "It appeared to me hardly advisable to increase the danger by opening his trachea. The risk of apnœa is very slight: only a possibility of danger."—*Mr. Langton's Case*, p. 352.

all recovered (N. Y. Med. Rec. xviii. 565). As regards the tube to be used, whether Hahn's or Trendelenberg's, the recent debate at the Clinical Society on excision of the larynx seemed to show that Hahn's is to be preferred, since Trendelenberg's may cause spasm when its bag is inflated.

Carcinomata.

The true cancers of the palate, happily rare, are of two kinds: one, like the cancers of the lip and tongue, which begins in irritation of the mucous membrane; the other, like the medullary cancers elsewhere, which begins as a solid growth underneath the mucous membrane.

The first kind often begins in the gums, and invades the palate secondarily; these should therefore be classed with tumours of the gums, and not be considered here. But Brissaud [1] gives a case of a man of 45, a great smoker, in whom malignant ulceration of the palate followed psoriasis of fifteen years' duration; Birkett [2] gives another; and to these may be added the case on page 329.

The second kind of true cancer of the palate, medullary (?) cancer, is very rare. Three cases follow. All were old folk. In all, the glands at the angle of the jaw were diseased; in all, the disease had pushed rapidly outward, invading the pharynx and the tonsil. Rapid recurrence, and deposits in the lungs and elsewhere, are noted in two cases. These tumours grow very quickly, and form adhesions far and wide; they do not arise from the bone.

1. A woman, age 53. Disease noticed one year. She has a tumour connected inseparably with her hard and soft palate, and lying in front of the right tonsil. It is smooth, glossy, pale red, and firm; ulcerated toward the middle line and posteriorly. There are several enlarged, hard, moveable glands at the angle of the jaw. She has great emaciation, with swollen abdomen, pain in right side, much dirty greyish expectoration; she sleeps sitting.

No operation possible. Death from pleurisy. Disease "distinctly cancerous." Deposits in lungs, trachea, and stomach.—*Mr. Shaw, Path. Trans.*, vi.

2. A man, age 59. Disease noticed three months. He has a tumour in the left half of his soft palate, the size of a large walnut, pushing down between the pillars of the fauces; soft, almost fluctuating. The mucous membrane over it is slightly congested, and a few large veins can be seen in it. No glands are felt at the angle of the jaw.

[1] Bull. Soc. Anat., 1872, p. 608.
[2] Sir W. MacCormac's paper, Path. Trans., 1886.

He has difficulty of breathing, and can only swallow fluids.

Mr. Langton made an incision over it, which was followed by profuse hæmorrhage. The growth was easily enucleated, except toward the horizontal plate, where its attachment was more firm. The wound was sutured, as in Sir W. MacCormac's case.

Recurrence six weeks after the operation. Death three weeks later.

Post-mortem.—A mass in the palate the size of a Tangerine orange; not found to be connected with the bone. Soft, lobulated, medullary cancer. Cervical and mediastinal glands infiltrated, and cancerous deposits over both lungs.—*Mr. Langton, Clin. Trans.*, iii.

3. A man, age 56. Disease noticed two months. He has a tumour in the right half of his soft palate the size of a chestnut; it has grown to touch the pharynx; it is moveable, firm, ill-defined. Mr. Treves ligatured the common carotid and removed the right half of the soft palate, tumour and all; also an enlarged gland from the angle of the jaw. Recovery.

The growth was "a spheroidal-celled carcinoma," part encapsuled, part not; an "adenoid carcinoma" (Eve).—*Mr. Treves, Path. Trans.*, 1885.

Conclusions.

1. Tumours of the palate are usually circumscribed, encapsuled, and easily to be removed. They grow usually in the soft palate, and very rarely from the bone. Some of them present very many points of likeness to tumours of the parotid region; and, like them, are probably of embryonic origin.

2. Rapid growth, infiltration, extension outward and downward, advanced age in the patient, enlarged lymphatic glands, glossy smoothness and adhesion of the mucous membrane over the tumour,—all these are bad signs.

3. No tumour of the palate should be left to itself, but preliminary operations are only necessary in very bad cases.